Addendum/Lessons Learned to the ROB1 Installation Instructions
Version date 04/16/03

Important General Information:

Modified Prerequisite for OB1:

In the original installation document for OB1, an installation requirement was that WFO type sites installed at least IFPS 12.3. Unfortunately, a problem was recently found with IFPS 12.3 and a freeze was placed on it so that sites could no longer install this version of IFPS software.

Therefore, for those sites that could not install at least IFPS 12.3 by the time they do the OB1 upgrade, you can go forward and do the OB1 installation if you have at least IFPS 12.2 installed at your site, instead.

As a result of this change, IFPS 12.2 sites doing the OB1 upgrade will need to do a new step which is placed in the addendum in Part 0, step 18. This was added because of a typo in a script that had originally been fixed in IFPS 12.3.

Run Send Mail Patch to close security hole after installing OB1

The "sendmail.sh" script, needs to be run to close a security hole associated with "sendmail." The script will fix the problem on all devices (ls1, as1, as2, ds1, ds2, HP workstations, cpsbn1, cpsbn2, lx1, lx2, ax, px1, px2). You will run this script in Part 11 and again after you do the CP part of the upgrade (Part 13), which most sites will do on another day.

IMPORTANT Information: Replacement OB1 CDs have been shipped to affected sites. (3/14)

During the week of March 10, a number of sites doing the OB1 upgrade experienced CD problems while running the installation scripts. It is believed that the problems were a result of the mid quality grade CDs used for replication. To resolve the issue, NGIT is re-cutting and re-sending the affected CDs to the affected sites.

The CDs to be replaced are the OB1 software CDs labeled a-c below. The lot number for these CDs are numbered 1, 2, or 3 for the following 3 OB1 CDs, only:

   a. ADAPT, LDAD, OH, NMAP, FREEWARE
   b. WFOA, LAPS, NGIT UX, NGIT RT
   c. Linux WFO-A, Linux NGIT

Sites with lot numbers 1, 2, or 3 for the above CDs, will receive 3 newly cut CDs as a replacement. The new lot numbers will be labeled 4 or greater. Please use these when you do the OB1 upgrade.

The 4 disk image CDs associated with the upgrade are fine and will not be replaced.

Approximately 100 sites received the mid quality OB1 CDs as part of the original install package which included the PXs and OB1 install kit. These sites will receive replacement CDs.

The last 50 or so sites to receive the PX/OB1 install packages will receive updated OB1 CDs as part of their install kit. The lot number for the updated OB1 CDs will be 4 or greater.

Part 0 : ROB1 Pre-install Script

Part 0, page 7, procedure 6, ICAT   4/16/03

It is probably best not to run ICAT at this time. If, however, you decide you want to run ICAT you should call David Friedman, the developer, first. His number is 301-713-0211 x138.

Part 0, page 7, procedure 7, bullet 3 needs to be updated as shown. (The LDAD System Administration Note should be 15, not 12. Until signed, use new attachment "i" of the this addendum to backup LDAD.)   4/8/03

7.   **Manual file backup information.** Even if you use ICAT, certain customized files that are not handled by ICAT should be saved off manually. These include the following:

Bullet 3 should be updated as follows.
•   Secure a good LDAD backup a week or so before the upgrade. Use System Administration Note 15 entitled "LDAD Backup and Restore Procedure."   This document, when finalized and signed, will be placed on the following web page: http://www.oso3.nws.noaa.gov/awips_new.htm

Until the note is signed, use **Attachment "i" Backing up your LDAD server's disk**. The attachment is found in Attachment "i" of this addendum.

Part 0, page 13, additional info on step 16.   (3/21)

A couple of issues have arisen due to the length of time between when earlier upgrade sites performed step 16 to backup the lx and when they restored it in Part 11.

1.   The Backup_LX.sh script deletes the .rhosts file on the lx, and a new .rhosts file is delivered in Part 11. This means if you run the script one or more days before Part 11 is done, no .rhosts file will exist on the lx. This is a problem because programs such as IFPS and WWA cannot run properly without a .rhosts file.

2.   The Backup_LX.sh script saves off the digital data for the IFPS in the tar file. However, if a site runs the backup script <u>too early</u>, the digital data will become <u>outdated</u> and will be deleted when the ifpServer is started after the OB1 upgrade is finished.

The <u>easiest solution</u> to both of these issues and the one we <u>highly recommend</u> is to wait and do Part 0, Step 16 on the day of install. This should be done in Part 1, step 1. It may take 30 minutes to complete this step, so you may want to begin a half an hour earlier on your install day. Assuming you follow this recommendation, the one thing you can do a day or so before the upgrade, is step 16 H. This step should be as follows:

H.   The Backup_LX.sh script will be run in part 1, step 1. When that script ends, it will save off: awipsusr, LDAD, fxa_users, .env files, readEnv, and informix. In addition, after the OB1 upgrade, you will find a subdirectory called /awips/fxa/awipsusr/.PREOB1gnome which will contain some of your pre-OB1 start up menu files.

On the day before the upgrade, the site can save off **other files not mentioned above**, as needed. Please note that files in awips/fxa bin, data, informix and lib will be removed and recreated during the LX install portion of the OB1upgrade.

<u>If you do not do the easiest solution</u>, the more complicated and **messier solution** is to do the following:
  a.   You should save a copy of your /awips/fxa/awipsusr/.rhosts prior to running the Backup_LX.sh script.

  b.   You can restore the file after the Backup_LX.sh script has completed, and use that .rhosts file until you begin the upgrade.

  c.   After this, the IFPS users must also do the following:
       You will need to save off your forecast digital database using ifpnetCDF prior to beginning Part 1. You will then use IscMosaic to restore the digital database after the Restore_LX.sh script in Part 11.

Part 0, page 14, add new step 18.

18.   WFOs with IFPS 12.2 installed, instead of IFPS 12.3, need to do the following because of a typo in a script:

As the **root** user on DS1, go to the /awips/adapt/ifps/bin/linux directory. Edit the **correct_ifps_permissions** script. Change the variable "$FPS_HOME" to "$IFPS_HOME". You may see this error either once or twice in the script.

As mentioned earlier, this script was fixed in IFPS 12.3 so those sites do not need to modify the script.

PART 1: Install Day Procedures

Part 1, page 1-1, replace step 1 so that it is as follows:

1.   As mentioned in part 0, **replacement step 16 in this addendum**, we **highly recommend** that sites do the Linux Workstation Backup on the day of the upgrade!!!!   To do this, following the instructions below:

Linux Workstation Backup (must be done by all sites including RFCs)

The procedure to will back up some lx1 and lx2 files, since the disk image will wipe all information off of the lx1 and lx2 during Part 10. You will be instructed how to restore this data in Part 11.

Note: Below (A-H), several file/directories under /awips/fxa are saved off, as well as GFESuite at a WFO. The following will be saved off:
awipsusr, LDAD, fxa_users, .env files, readEnv, and informix.

In addition, after the OB1 upgrade, you will find a subdirectory called /awips/fxa/awipsusr/.PREOB1gnome which will contain some of your pre-OB1 start up menu files.

Except where indicated above, site customizations from other directories were not be saved off and won't be brought back in, automatically, during the upgrade. Therefore, unless indicated earlier, it is better for you to save off important files and bring them back yourself, as appropriate, after the upgrade.

A.   Begin as **root** on the **ds1**, and then log into **px2** as **root**. After this, issue the following command exactly as shown:

```
rlogin px2
exportfs -i -o rw,no_root_squash lx*:/px2data
```

B.   Go to the lx1, and then log on as root and insert the CD labeled "Linux WFOA, Linux NGIT" into the lx1 cd drive. Then issue the following commands from lx1.

```
mount /mnt/cdrom          (Issue this command only if the CD has not
                           already been mounted.)
cd /mnt/cdrom
script -a -f /local/install/Backup_LX.out   (Note: this and next
                                             command are the same for
                                             lx1 or lx2
```

```
./Backup_LX.sh
./stopscript
```

C. Verify the backup tar file. Note: Before you eject the CD, make sure the face cover is swung open and not blocking the cdrom drawer.

```
cd /px2data/OB1_SAVED
tar tfz SAVED_522lx1-<siteid>.tar.gz
eject cdrom
```

Note: Next, logout of lx1

D. Go to the lx2, and then log on as root and insert the CD labeled "Linux WFOA, Linux NGIT" into the lx2 cd drive. Then issue the following commands

```
mount /mnt/cdrom              (Issue this command only if the CD has not
                              already been mounted.)
cd /mnt/cdrom
script -a -f /local/install/Backup_LX.out   (Note:  this and next
                                            command are the same for
                                            lx1 or lx2

./Backup_LX.sh
./stopscript
```

E. Verify the backup tar file

```
cd /px2data/OB1_SAVED
tar tfz SAVED_522lx2-<siteid>.tar.gz
eject cdrom
        Note:  Next, logout of lx2
```

F. Log on to **px2** as **root** and issue the following command:

rlogin px2
```
exportfs -u lx*:/px2data
```

G. Reboot LX1 and LX2.

H. The note above mentions the files which were backed up. If you haven't already done so, the site should save off other files, as needed, before doing the LX upgrade portion of the install. Files in awips/fxa bin, data, informix and lib will be removed and recreated during the LX upgrade.

PART 4: OB1 Pre-install Script

Part 4, page 4-3, new step 6 is added.   3/27/03

6.   The Great Lakes sites listed need to do this step to fix a GLERL Wave Model issue:
        APX, BUF, CLE, DLH, DTX, GRB, GRR, IWX, LOT, MKX, MPX, and MQT

        All other sites should skip this step.

Problem: OB1 adds the GLERL Wave Model to AWIPS. The preinstall determines if the
                site is a great lakes site, and if it is, it puts entries for the GLERL model into
                /awips/fxa/data/localization/<site>/<site>-acqPatternAddOns.txt on ds1 and then
                copies that file to all other DS's, AS's, and WS's. The problem is, near the end of
                the file there is a comment line that is added by the preinstall script that does not
                begin with a "#".   Localization then appends this addons file to the real
                acq_patterns.txt file. Unfortunately, when ingest is started up, AWIPS attempts to
                interpret this comment line as a real product since there is no "#" and it fails to
                understand it. The end result is that no acq_server process get forked
                successfully, and no Gateway data are ingested.

The Fix: After the preinstall script runs:

        1.   As user **fxa**, from **ds1**, use the editor of your choice to insert a **#** into the
                3rd line from the bottom (this is the "Added per DR..." line) in the
                /awips/fxa/data/localization/<site>/<site>-acqPatternAddOns.txt file. The
                correction should look as follows:

                # Added per DR #11702 and DR #11818
                # GLERL Wave Model Data
                GRID   ^O[LMN]N.88.*KWNB   /Grid/SBN/Raw

        2.   Copy the updated acqPatternAddOns.txt file to all DS's, AS's, PX's, LX's,
                and WS's.

                ```
                cd /awips/fxa/data/localization/XXX
                chmod 775 XXX-acqPatternAddOns.txt
                chown fxa:fxalpha XXX-acqPatternAddOns.txt

                for i in ds2 as1 as2 lx1 lx2 px1 px2
                $WORKSTATIONS
                > do
                > rcp -p XXX-acqPatternAddOns.txt
                $i:/awips/fxa/data/localization/XXX > done
                ```

PART 11: Install OB1 Software on LINUX (LX1 and LX2)

Part 11, page 11-6, add new step 21.

21.   Below you will run the "sendmail.sh" script, which closes a security hole associated with sendmail. The script will fix the problem on all devices (ls1, as1, as2, ds1, ds2, HP workstations, cpsbn1, cpsbn2, lx1, lx2, ax, px1, px2). You will run this script again after you do the CP part of the upgrade (Part 13). (Note: this script does not need to be run after you do Part 12, the PX software upgrade portion of the install.)

Type the following (from ds1 as root):

```
cd /home/ncfuser
./sendmail.sh
```

If you see the following messages, you can ignore them:

This may be seen in the first section of the output when the script is communicating with ls1:
No sendmail server running
cp: cannot create /usr/sbin/sendmail: Text file busy

This may be seen in the output when the script is communicating with the HP devices, where aaa is the device, and xxx is the site ID:
WARNING: local host name (aaa-xxx) is not qualified; fix $j in config file

This may be seen near the end of the output when the script is communicating with the Linux devices:
mv: Cannot stat file 'usr/sbin/sendmail': No such file or directory.

PART 13: Install CP Software

Part 13, page 13-9, add new step 19.

19.   Re-run the sendmail.sh script

Below you will run the sendmail.sh script, which close a security hole associated with "sendmail." It will take care of the problem on all devices (ls1, as1, as2, ds1, ds2, HP workstations, cpsbn1, cpsbn2, lx1, lx2, ax, px1, px2). It needs to be run again because the OB1 CP Image CDs contains the security hole.

At an AWIPS workstation log into ds1 as root and type the following:

```
cd /home/ncfuser
./sendmail.sh
```

If you see the following message, you can ignore it:

mv: Cannot stat file 'usr/sbin/sendmail': No such file or directory.

PART 14: OB1 After-Install Procedures

Part 14, page 14-3 and 14-3, replace 5A with the following.   (3/14/03)

Miscellaneous Post install Procedure 5A needs clarification. Use the following as a replacement.

5.   Miscellaneous Post install procedures (must do on day of upgrade)

A.   Sites that receive data through LDAD and distribute it on the SBN need to look at the following.

In OB1, a new LDADWmoID.cfg file was delivered on ds1 in awips/fxa/data. This file uses a new format for accomplishing the distribution of LDAD data to the SBN. For your convenience, the previous version of this file was renamed LDADWmoID.cfg.preob1.

Sites that distribute data from LDAD to the SBN will need to take the appropriate information from the previous version file and place it into the updated OB1 file using the new format specified in the file.

1.   Products coming in through LDAD can be sent out in shef format with a specified WMO header across the SBN. If your site does this, you need to examine the new LDADWmoID.cfg file and make appropriate changes. More specifically, you will need to take the appropriate information from the previous version of the file (see LDADWmoID.cfg.preob1) and place it into the new file using the specified format.

2.   If you update the LDADWmoID.cfg file in step 1, place the updated version on ds2.

```
rcp /awips/fxa/data/LDADWmoID.cfg \
ds2:/awips/fxa/data/LDADWmoID.cfg
```

Part 14, page 14-6, added new procedure 5H.   (4/02/03)

Miscellaneous Post install Procedure 5H is needed for Alaskan sites only.

    5H   Alaskan sites (ACR, AFC, AFG, AJK, VRH) need to do the following:

After the OB1 upgrade, a RAMOS problem will exist. Data will not process because stations do not match. FSL redesigned the RamosDriver. The preprocessor was failing due to data format changes. To fix this, the preprocessor was redesigned to account for the new data format.

In early April, the SST will be given a patch to fix the problem and instructions to install it. An AWIPS Test Authorization Note (ATAN) was signed to give them authorization to install this patch.

After you complete the upgrade contact the SST, during their normal working hours, at 301-713-1724. Make arrangements with them to install the patch at a mutually convenient time.

Part 14, page 14-7, a new paragraph was added to the bottom of 6B because a clarification was needed. (3/27/03)

We added a new paragraph to the information in the original procedure. The updated procedure should be as follows:

6B **GOES-12 Procedure if it has been activated at your site (will occur 4/1/03 for GOES East users):**

If GOES-12 <u>has</u> been activated for your site, or if you intend to use GOES East in the foreseeable future, then the file /data/fxa/nationalData/GOESImagerInfo.txt will have to be edited/revised prior to re-localizing your workstations. This file will be used by the localization process in order to select the correct D-2D satellite menu file (i.e., either ijklSatDatamenu.txt or mnopqSatDatamenu.txt). Before the activation of GOES-12 (as GOES East), the GOESImagerInfo.txt file should begin as follows. (This file is delivered in OB1):

```
EAST          1
WEST          1
CENTRAL       3
```

After the activation of GOES-12 as GOES East, we want the beginning of the GOESImagerInfo.txt file to look as follows:

```
EAST          2
WEST          1
CENTRAL       3
```

3/25/03 Check the /data/fxa/nationalData/GOESImagerInfo.txt file. If in the first line of the file, the value for "EAST" is **not set** to "2" (see above) do A and B as follows:

A. Use the editor of your choice and change the integer value corresponding to EAST to 2.

B. To activate the change, you must do a "tables" localization on **px1 and px2 and on each workstation**. To do this do steps 1 and 2 below.

1. From **px1**, as user **fxa**, type the following:

```
cd /awips/fxa/data/localization/scripts
./mainScript.csh -tables

cd /awips/fxa/bin
```

```
./stopIngest.px1
./startIngest.px1
```

2.   From **px2** and on **each workstation**, do the following:

As user **fxa**, type:

```
cd /awips/fxa/data/localization/scripts
./mainScript.csh -tables
```

Note: Repeat the localization in B2 on the rest of the
workstations/px2 until they have all been
completed.

NOTE:At some point after you are done re-localizing, the site will need to restart
D-2D on all workstations, so that the menu/label changes will be
activated.

Attachment "g" - OB1 OHD Post-Install Instructions

Section C: RFC type sites, item 2 (adjust token), b (review and adjust), dpa_archive token, page g-3. Add a sentence to tell RFCs to change the default to "ON."   4/15/03

2b   dpa_archive : OFF   (Default value)

               Description: This is an on/off flag for archiving products.
               Settings: ON = archive products within the window defined by the
               dpa_archive_window token value; OFF = do not archive any products, in which
               case the dpa_archive_window token is ignored.

               RFCs will need to change this token to "ON".

Attachment "h" - Add on to Release Notes Section I

There are two modifications that are needed to the OB1 Release Notes, Section I.

Change 1 pertains to the Radar section (page 1-3). Replace the first bullet of Section 1.8 with the following:

1.8   Radar

● The VAD Wind Profile (VWP) product is now displayable at sites whose dedicated radar is running ORPG Build 3.0 or higher. Access is via the Volume Browser. Select VWP in the Source menu and Sounding display (place a Point at the radar of interest) to display the hodograph. The Time height or Var vs Hgt modes can be used to display these data. New vertical scale choices 0-5km MSL and 0-2.5km AGL may be useful for the latter.

The second addition is a new item under Freeware/COTS. It describes the installation of the acrobat reader. Add the following new bullet at the beginning or end of section 3.2, page 1-4.

3.2   Freeware/COTS Software

● Adobe Acrobat Reader is installed on the Linux workstations and integrated into Netscape by the install. This is so that the online AWIPS System Manager's Manual, which is now in PDF format, can be read.

Attachment "i" Backing up your LDAD server's disk

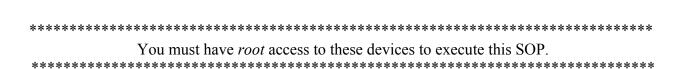**This attachment to the ROB1 installation instructions**.

If System Administration Note 15 entitled "LDAD Backup and Restore Procedure" is not available on the following web page (http://www.oso3.nws.gov/awips_new.htm), use the instructions below to backup your LDAD server's disk.

The purpose of the following is to give guidance on how to backup your LDAD server's disk either before or after an upgrade.

TASK/PROBLEM:

> This procedure explains how to create LDAD server's disks after they have been initially established. It requires that the LDAD server be connected to the site's network. The LDAD server needs to be checked with the site localization before returning to operational status.

PROCEDURE/SOLUTION:

****
                  You must have *root* access to these devices to execute this SOP.
****

> Login to site and determine the problem is **REAL** and this is the correct site before continuing with these procedures. (1) The LDAD server must be unable to boot (if recovering a root disk), and (2) the disk has been replaced.
>
> **To create a *make_recovery* DAT of the root disk**, perform the following procedures on a baselined, working LDAD server as the *root* user. This backup needs to be performed whenever there is an upgrade. Both disks need to be backed up. The secondary disk is backed up using the UNIX *tar* command.

1.   Insert a blank DAT with write protect off into the internal DAT drive.

2.   Initiate the tape creation. The LDAD server may be operational during the tape creation process. Verify the tape dive is connected and is using */dev/rmt/0m* by entering the following on ls1-<siteID>:

> **Type:**   `ioscan -fn | egrep "tape|rmt"`
>   -   Result: The output should be similar to the following:
> ```
> tape    0  8/16/5.0.0   stape    CLAIMED   DEVICE    HP    C1533A (or 37A)
>                 /dev/rmt/0m        /dev/rmt/c3t0d0BEST
> ```

```
/dev/rmt/0mb        /dev/rmt/c3t0d0BESTb
/dev/rmt/0mn        /dev/rmt/c3t0d0BESTn
/dev/rmt/0mnb       /dev/rmt/c3t0d0BESTnb
```

If the device files (*/dev/rmt/0m**) are not present, either the SCSI setting on the DAT drive does not match the files or the files do not exist.

Note: Sites have been instructed to call the NCF and not to proceed until this is resolved.

3.   Edit the *inittab* file so that when the *make_recovery* process is used to restore the device later, it will only come up to single user.

      Type: `vi /etc/inittab`

      Change this line: `init:3:initdefault:`

      to look like this line: `init:S:initdefault:`

4.   Before starting the tape creation, check to make sure the following listing contains only two files. Any files other than the main files (no extensions - the files shown are the only ones that should be listed) need to be deleted before making the tape:

      Type: `ls /etc/rc.config.d/netconf*`
                        `/etc/rc.config.d/netdaemons*`
                -        Result: The output should look like the following:

      /etc/rc.config.d/netconf   /etc/rc.config.d/netdaemons

5.   Initiate the *make_recovery* process (it should take about 20-40 minutes):

      Type: **/opt/ignite/bin/make_recovery -A**
                -        Result: The output should look like the following:

```
Option -A specified. Entire Core Volume Group/disk will be backed up.

***************************************
HP-UX System Recovery
Going to create the tape.
System Recovery Tape successfully created.
```

      When the prompt reappears, the *make_recovery* tape has completed.

6.   After putting the write protection on, verify the *make_recovery* tape by performing the following (which should take about 30 minutes):

      Note: The use of *nohup* ("run a command immune to hangups") is to ensure the

operation will continue running in the background if the terminal session that initiated the command is closed or is some way terminated. It is not required, merely recommended.

Type:　　　　**`mt -t /dev/rmt/0mn fsf 1`**

Type:　　　　**`nohup tar -tf /dev/rmt/0m > /tmp/nohup.out 2>&1 &`**

Type:　　　　**`tail -f /tmp/nohup.out`**

No errors should be encountered and the tape should list all files backed up, ending with entries under */var*.

Be sure to write the root password, release number, and date on the tape. If multiple tapes are required, be sure to indicate the tape sequence on the label so that the proper order will be used during the restore.

7.　　　Put the *inittab* file back to the way it was.

Type:　　　　**`vi /etc/inittab`**

Change this line:　　**`init:S:initdefault:`**

to look like this line:　**`init:3:initdefault:`**

8.　　　Backup the *vg01* partitions using the UNIX *tar* command (only the */data/ldad* and */home* partitions need to be backed up). After inserting a new tape in the internal DAT drive, with write protect off:

Type:　　　　**`nohup tar c /data/ldad  /home > /tmp/nohup.out 2>&1 &`**

a.　　　Monitor the *tar* process using the following script:

　　　Type:　　　`while true`
　　　Type:　　　`do`
　　　Type:　　　`ps -ef|grep "tar c"`
　　　Type:　　　`date`
　　　Type:　　　**sleep 10**
　　　Type:　　　`done`

b.　　　Verify *nohup.out* looks OK (looking for read/write errors).

　　　Type:　　　**`cat /tmp/nohup.out`**

9.   After putting the write protect on, verify the *vg01* backup by performing the following:

Type: `nohup tar -tf /dev/rmt/0m > /tmp/nohup.out 2>&1 &`

Type: `tail -f /tmp/nohup.out`

Result: No errors should be encountered and the tape should list all files backed up, ending with entries under */home*. Be sure to write the release number and date on the tape. If multiple tapes are required, be sure to indicate the tape sequence on the label so that the proper order will be used during the restore.